Meeting Summary and Follow-On
Meeting on January 25, 2016 to Discuss DEQ and EPA's January 19 2016 Comments on the Northwest Pipe Work Plan - Supplemental Groundwater Sampling and Data Evaluation

PREPARED BY: CDM Smith

PROJECT: Northwest Pipe Company Source Control

MEETING DATE: January 25, 2016

MEETING TIME: 9:00 AM - 10:30 AM PST

LOCATION: DEQ NWR at 700 NE Multnomah Portland Oregon Room 610 and WebEx for remote attendees (See call-in information below)

ATTENDEES:

Stephanie Heldt-Sheller/Northwest Pipe Company
Mike Wray/Northwest Pipe Company
Ken Shump/CH2M
Gretchen Gee/CH2M
Jim Orr/DEQ
Ken Thiessen/DEQ
Eva DeMaria/EPA
Mike Allen/CDM Smith
Howard Young/CDM Smith
Steve Dent/CDM Smith

At the start of the meeting, EPA informed the group that they did not have any attorneys on the call and that EPA prefers to have their attorney on calls when other attorneys are present. Stephanie H.-S. asked the two Northwest Pipe (NWP) attorneys to drop off the call in response.

DEQ Comment #1 – NWP acknowledged DEQ's opinion that the current information does not support NWP's suggestion of an offsite source.

DEQ Comment #2 – CH2M verified that both the NWP and Terminal 4 wells were both surveyed to 0.01 feet by Oregon licensed surveys to the same datum and believes vertical control is not an issue. NWP wells were confirmed to be flush-mount and in traffic areas. DEQ is concerned because of the age of the wells and possible movement of the casing tops over time in a heavy use industrial setting. In addition, the groundwater elevation at the property is flat and minor shifts could result in major shifts of projected groundwater direction.

DEQ Comment #3 – NWP is only developing wells primarily to check the well condition and clear the well screen to the bottom of the well for proper sampling. They do not feel that water quality parameters are needed to determine if development is completed. DEQ responded that proper well development is needed to: (1) remove sediment to the bottom of the wells screen so the wells are suitable for DNAPL or heavier water contaminants; (2) wells need to be developed for accurate hydraulic conductivity determination; and (3) need entire screen interval developed so that sampling will result in representative samples of groundwater in the formation. CH2M replied that concentrations are too low to cause a density driven flow to the bottom of the well and concentrations are too low to indicate the presence of DNAPL. In addition, CH2M stated that full development of the wells is not needed for collecting representative groundwater samples. However, NWP agreed to use a surge block in addition to the submersible pump for well

development. In addition, NWP agreed to monitor water quality parameters during development and to include quantitative criteria for ending development in the revised work plan.

DEQ Comment #4 – CH2M requests that DEQ provide a documented method for determining well efficiency from slug test data. DEQ agreed to provide a reference.

DEQ Comment #5 –EPA MNA Guidance (Table 5.3) does not require carbon dioxide and therefore CH2M did not include carbon dioxide in the Work Plan. They did not propose methane analysis because previous data indicated that reductive dechlorination is occurring without needing to look at the methane parameter. DEQ and EPA recommended that methane be included. NWP agrees to include the methane analysis although they do not think it is needed.

DEQ Comment #6 – NWP asked DEQ's rationale for adding the two additional monitoring wells. DEQ responded that adding T4-MW9 would allow a data point closer to the slip. DEQ also wants to add T4-MW9 to bracket contamination migrating from the site and noted that this well had previous detections. NWP agreed that they will add these two wells to the Work Plan.

Frequency of monitoring. NWP commented that adding two monitoring events will add considerable cost. DEQ stated the importance of having a robust data set to determine the effectiveness of natural attenuation and that quarterly sampling was needed. NWP agreed to conduct four monitoring events but would request a reduced analyte list based on results from the first round of sampling. The discussion noted that NWP would prefer not to collect/measure the natural attenuation parameters in all events. There was partial concurrence from DEQ for a reduction in these parameters for future events if NWP wrote up a rationale.

DEQ Comment #7 – NWP accepted revising the sequence of well sampling to match EPA's comments to have MW-06 as the last well in the sequence. Discussion clarified as in EPA comments that the sequence includes all invasive activity in the wells. DEQ concurred.

DEQ Comment #8 – NWP agreed with this comment.

DEQ Comment #9 – CH2M replied that they will use the Bouwer-Rice method and may supplement the analysis with another method. DEQ and EPA agreed. NWP clarified that Work Plan Section 2.2 states that another method may be used "in addition to" Bouwer-Rice, thus intending it as a supplemental method.

DEQ Comment #10 – NWP agreed with the 60-day reporting period.

DEQ Comment #11 – NWP is concerned that the draft PRGs may change and are not final. DEQ responded that these are appropriate, the most conservative, and most will become the clean-up goals when final, though there is a possibility that some will change before the final ROD. However, the objective for using the values is for a screening comparison. NWP is concerned that in the past they have had an expense in updating their reports due to changing screening levels and want to avoid that. Eva D. commented that the PRGs do change but they will likely be in the Portland Harbor ROD at the end of 2016. DEQ agreed to request the most current PRG values from EPA and provide them to NWP. Eva D. confirmed after the call that the latest publicly available PRGs are from July 29, 2015.

EPA General Comment #1 - NWP asked what information EPA wants from BIOCHLOR. They do not have a digital copy and it would be a big effort to scan entire document. EPA agreed that just the sections relating to BIOCHLOR and natural attenuation would be acceptable.

EPA General Comment #2 - NWP wants clarification regarding the statistical analysis EPA is requesting. EPA noted that to achieve NWP Work Plan's stated objectives for demonstrating concentration trends, there needs to be a quantitative means to document a trend, but also acknowledged that they are not looking for a complicated groundwater statistical analysis. NWP stated there is no plan for statistically evaluating the data. EPA stated that the specific evaluations would be dependent upon the dataset and upon future discussion between EPA and DEQ regarding how best to document achieving source control.

EPA would accept a graphical presentation of the new data and historic data with some sort of confidence measures presented with the graphs and a typical best-fit line. EPA suggests an initial review of the data for cyclical patterns then, if appropriate for the dataset, a simple graphical evaluation of the time versus concentration be performed on datasets of three or more measurements to identify potential temporal trends of the measured concentrations. Analyses to identify a trend will need to consider potential cyclical fluctuation and/or seasonal influences in groundwater that affect chemical concentration.

EPA General Comment #3 - NWP stated that they are not identifying an alternative plan if wells are not properly screened for representative sampling. NWP stated that they confirmed that all the Port wells are completed in shallow aquifer. NWP did not have the well construction diagrams at hand and were not sure about the specifics of the screening interval. They were also not sure if the well construction logs or diagrams would be included in the Work Plan. NWP will first submit a response to comments outlining what they propose be in the Work Plan addendum and then go from there. DEQ expressed their preference to have the well diagrams and screened intervals clearly shown in the revised Work Plan.

EPA Specific Comment #1 - NWP disagreed that the areas experience pooling other than from one reported event in 2010. NWP also disagreed that there is evidence that the groundwater direction changes over time. EPA stated that the general purpose of the comment was to note that there are other potential mechanisms to explain increasing concentration at MW-5 other than an off-property source. NWP noted the comment and mentioned a figure in the March 2015 SCE report that identified stormwater pooling in an area along the property boundary near the main gate, in the general area of question. The area was mentioned in the discussion as related to temporary road construction and runoff diversion.

EPA recommends a new elevation survey be conducted on the groundwater wells on both the NWP and Port of Portland properties to ensure that top of casing (or other depth to water reference point) from the two sites have current and accurate elevations to support water level mapping. Accurate top of casing elevations are critical for calculating groundwater elevation used to determine hydraulic gradients. Very small shifts in elevation can potentially affect hydraulic gradient calculation and result in incorrect groundwater flow direction. Because the groundwater elevation contour plots for NWP property were developed from measurements collected at different times of the year, it appears that groundwater elevation contours may have changed significantly at different points in time. For example, the June/July 2005 groundwater elevation contour map (from CH2M's November 10, 2015 Power Point presentation) show that MW-5 and MW-6 are in a saddle with groundwater flow approaching the saddle from the east and west. In contrast, the September 2005 groundwater elevation map shows a uniform horizontal hydraulic gradient with groundwater flow directed towards the south-southeast. The groundwater elevation between MW-5 and MW-6 appear to be very similar in the June/July and September 2005 measurements indicating that small changes in groundwater elevation could result in changes in the groundwater flow direction.

EPA Specific Comment #2 - Covered in DEQ comments.

EPA Specific Comment #3 - Covered in DEQ comments.

EPA Specific Comment #4 - Covered in DEQ comments.

EPA Specific Comment #5 - Covered in DEQ comments.

EPA Specific Comment #6 - Covered in DEQ comments.

EPA Specific Comment #7 - Covered in DEQ comments.

EPA Specific Comment #8 - NWP is looking into analytical methods that will lower detection limits to a concentration lower than the PRGs. For any analyte that cannot attain a detection limit lower than a PRG value, a justification will be included in the revised work plan.

EPA Specific Comment #9 - Covered in DEQ comments.

EPA Editorial Comments - NWP agreed to address all editorial comments in text.

NWP restated their plan to provide a detailed response to comments and expressed uncertainty regarding a revised Work Plan and schedule.

NWP confirmed to DEQ that they had contacted the Port of Portland for access permission.